



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 768 277 A1

(12)

EUROPEAN PATENT APPLICATION

published in accordance with Art. 158(3) EPC

(43) Date of publication:

16.04.1997 Bulletin 1997/16

(51) Int. Cl.⁶: **C01G 9/02**, **C01G 9/00**,
C01G 15/00

(21) Application number: 95920266.4

(86) International application number:
PCT/JP95/01113

(22) Date of filing: 06.06.1995

(87) International publication number:
WO 95/33688 (14.12.1995 Gazette 1995/53)

(84) Designated Contracting States:
DE FR GB

(30) Priority: 06.06.1994 JP 148575/94
19.08.1994 JP 218066/94

(71) Applicant: **NIPPON SHOKUBAI KAGAKU KOGYO CO. LTD.**
Osaka-shi, Osaka-fu 541 (JP)

(72) Inventors:

- **TAKEDA, Mitsuo**
Osaka 564 (JP)
- **MATSUDA, Tatsuhito**
Hyogo 658 (JP)

(74) Representative: **Grünecker, Kinkeldey, Stockmair & Schwanhäusser**
Anwaltssozietät
Maximilianstrasse 58
80538 München (DE)

(54) FINE ZINC OXIDE PARTICLES, PROCESS FOR PRODUCING THE SAME, AND USE THEREOF

(57) A process for producing zinc oxide fine particles comprising heating a mixture comprising a zinc source, a carboxyl-containing compound, and an alcohol; a process for producing zinc oxide-polymer composite particles, which comprises heating a mixture comprising a zinc source, a carboxyl-containing compound, a polymer, and an alcohol at a temperature of 100°C or higher; a process for producing inorganic compound particles having on their surface a cluster of thin plate like zinc oxide crystals with their tip projecting outward, which comprises heating a mixture comprising a zinc source, a carboxyl-containing compound, lactic acid or a compound thereof, and an alcohol at a temperature of 100°C or higher; a process for producing zinc oxide-based particles comprising heating a mixture comprising a zinc source, a carboxyl-containing compound, at least one element additive selected from the group consisting of the group IIIB metal elements and the group IVB metal elements, and an alcohol at a temperature of 100°C or higher; zinc oxide-based fine particles obtained by these processes; and uses of the zinc oxide-based fine particles.

Fig. 1



1 μm

EP 0 768 277 A1